

UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF OHIO  
EASTERN DIVISION

Terves LLC,	)	
	)	Case No. 1:19-cv-1611
Plaintiff,	)	
	)	Judge
vs.	)	
	)	
Yueyang Aerospace New Materials Co.	)	Jury Trial Demanded
Ltd.,	)	
	)	
and	)	
	)	
Ecometal Inc.,	)	
	)	
and	)	
	)	
Nick Yuan,	)	
	)	
Defendants.	)	

**Complaint**

For its complaint against defendants Yueyang Aerospace New Materials Co. Ltd., Ecometal Inc., and Nick Yuan, plaintiff Terves LLC (“Terves”) states:

**Summary of Case**

1. Terves is a Euclid, Ohio, company that has researched, developed, and patented unique and valuable magnesium-based, dissolvable materials for constructing drilling tools for the oil and gas industry. Making tools out of dissolvable materials allows drillers to leave their tools in underground wells to dissolve and avoids the substantial cost and time of having to retrieve the tools from miles below ground.

2. Terves owns multiple patents to its dissolvable magnesium inventions, including the two patents that it asserts here: U.S. Patent No. 9,903,010 (the “010 patent”)

and U.S. Patent No. 10,329,653 (the “653 patent”), collectively the “Terves Patents,” which are attached as Exhibits A and B, respectively.

3. Defendants are working jointly to manufacture in China and then import and sell in the U.S. dissolvable magnesium materials that infringe the Terves’ patents. Because the magnesium materials, and their method of manufacture, are patented by Terves, Defendants’ activities constitute patent infringement.

4. Terves sues to enjoin Defendants’ infringement and to obtain monetary relief.

### **The Parties**

5. Terves is a Nevada limited liability company with a principal place of business in Euclid, Ohio.

6. Yueyang Aerospace New Materials Co. Ltd. (“Yueyang”) is a Chinese company that does business in the U.S. and imports and sells products, including the infringing magnesium products, in the U.S. According to Yueyang’s website (en.yhalloy.com), its factory address is Jingming RD, Junshan Industrial Zone, Yueyang City, 414005, Hunan, China.

7. Ecometal Inc. (“Ecometal”) is, upon information and belief, a Canadian business that does business in the U.S. and imports and sells products, including the infringing magnesium products, in the U.S. According to Ecometal’s website (ecometalinc.ca), its address is 35 Owl Ridge Drive, Richmond Hill, Ontario L4S 1P8, Canada. Searches of Canadian business registries do not show any record of an

“Ecometal Inc.,” so Ecometal Inc. may be an unregistered business and/or a “dba” owned and operated by Nick Yuan.

8. Nick Yuan is an individual who, upon information and belief, resides at 35 Owl Ridge Drive, Richmond Hill, Ontario L4S 1P8, Canada. He owns and operates Ecometal Inc. and is a principal of Yueyang.

### **Jurisdiction and Venue**

9. This Court has subject matter jurisdiction over Terves’ claims under 28 U.S.C. §§ 1331 and 1338(a) because they arise under federal law and, more specifically, under the U.S. Patent Act, 35 U.S.C. § 1 *et seq.*

10. This Court has personal jurisdiction over Defendants at least because, among other things, they do business in Ohio; have willfully infringed at least the ’010 patent and intentionally caused tortious harm to Terves in Ohio; have solicited business in Ohio and have offered to sell goods and services in Ohio and to Ohio residents and businesses; upon information and belief, have actually sold goods and services in Ohio and to Ohio residents and businesses, including infringing products.

11. Venue is proper under 28 U.S.C. § 1931 at least because Defendants are subject to personal jurisdiction in this district under Ohio law and, therefore, reside in this district according to federal law.

### **Relevant Facts**

#### **I. Terves’ Rights**

12. Terves is a technology leader in the development, engineering, manufacture, and sale of engineered products for the oil and gas industry.

13. At their research facility in Euclid, Ohio, Terves' metallurgists and material scientists have made breakthrough inventions in the oil and gas industry.

14. Most relevant here, Terves is the leader in developing dissolvable materials for making drilling tools, such as frac balls, plugs, and other components used in oil and gas well completion and production.

15. Some of Terves' most important inventions are new ways to melt, mix, and cast magnesium to construct dissolvable drilling tools that provide improved control over dissolution rates and increased strength and reliability of the end products.

16. Dissolvable drilling tools can be left miles below ground after drilling is done and then dissolved by, for example, injecting a potassium chloride solution into the well. This results in a large time and money savings because the driller does not need to run a retrieval line miles below the ground to fish out the drilling tools. Thus, there is high demand by the industry for effective dissolvable tooling.

17. Recognizing Terves' unique and useful inventions, the United States Patent and Trademark Office has issued numerous patents to Terves, including the '010 and '653 patents.

18. The '010 patent issued on February 27, 2018, is owned exclusively by Terves, and is directed to methods for casting magnesium and controlling its dissolution properties.

19. The '653 patent issued on June 25, 2019, is owned exclusively by Terves, and is directed to dissolvable magnesium composites.

## II. Defendants' Wrongful Acts

20. Defendants are importing, selling, offering to sell, and/or using in the U.S. magnesium products that are manufactured by the processes recited in one or more claims of the '010 patent. The magnesium products themselves are also covered by one or more claims of the '653 patent. Collectively, these magnesium products are the "Infringing Products."

21. Yueyang is a Chinese business that manufactures dissolvable magnesium in China and then imports, sells, and offers to sell those products into the U.S., either directly or through partners, such as Ecometal and Yuan.

22. The processes used by Yueyang to manufacture the magnesium products that it imports, sells, and offers to sell in the U.S. are covered by one or more claims of the '010 patent.

23. The magnesium products that are imported, sold, and offered for sale in the U.S. by Yueyang are covered by one or more claims of the '653 patent.

24. Nick Yuan resides in Ontario, Canada. He owns and operates Ecometal and is a principal of Yueyang.

25. Upon information and belief, Nick Yuan has control and influence over Yueyang and has used that control and influence to direct Yueyang to manufacture the Infringing Products and then to import, sell, and offer to sell those products in the U.S.

26. Nick Yuan has infringed the Terves' Patents at least by: (a) personally importing, selling, and offering for sale Infringing Products in the U.S., (b) controlling and directing Ecometal to do so, and/or (c) controlling and directing Yueyang to do so.

27. Ecometals has infringed the Terves' Patents at least by: (a) importing, offering for sale, and selling Infringing Products in the U.S., and/or (b) controlling and directing Yueyang to do so.

28. Around October 2018, Terves had business discussions with Yuan. During those discussions, which did not lead to a consummated business deal, Terves disclosed to Yuan the existence of the '010 patent. Therefore, Defendants have actual knowledge of the '010 patent, and Defendants are willfully infringing the '010 patent.

29. Defendants' willful infringement has caused financial harm to Terves and irreparable harm, which will continue unless an injunction issues.

**Count One**  
*Infringement of the '010 patent*

30. Terves incorporates by reference all preceding allegations in this complaint as if fully rewritten herein.

31. The Defendants have infringed, and are infringing, the '010 patent at least by importing, selling, offering to sell, and/or using the Infringing Products in the U.S.

32. The methods used to manufacture the Infringing Products are covered by one or more claims of the '010 patent. For example, as to claim 1 of the '010 patent, the Infringing Products are magnesium materials manufactured by: (a) melting magnesium or magnesium alloy in a furnace (*i.e.*, "heating" it "to a point above its solidus temperature"), (b) adding copper, nickel, cobalt, titanium, or iron as an additive (that constitutes about .05 wt % to 45 wt % of the mixture), where the additive has a higher melting point than the magnesium or alloy, and (c) cooling the magnesium composite,

where the composite includes in situ precipitation of galvanically-active intermetallic phases.

33. Defendants have knowledge of the '010 patent, know that the Infringing Products were manufactured by the processes recited in one or more claims of the '010 patent, and thus their infringement is and continues to be willful and deliberate.

34. Terves has been and will continue to be damaged by Defendants' infringement in an amount to be determined at trial.

35. Terves has been suffering irreparable harm due to Defendants' infringement and will continue to suffer irreparable harm unless and until Defendants are enjoined by this Court.

**Count Two**  
*Infringement of the '653 patent*

36. Terves incorporates by reference all preceding allegations in this complaint as if fully rewritten herein.

37. The Defendants have infringed, and are infringing, the '653 patent at least by importing, selling, offering to sell, and/or using the Infringing Products in the U.S.

38. The Infringing Products are covered by one or more claims of the '653 patent. For example, as to claim 1 of the '653 patent, the magnesium materials that Defendants are importing, selling, offering to sell, and using: (a) contain magnesium or a magnesium alloy, (b) have copper, nickel, cobalt, or iron as an additive (that constitutes about .05 wt % to 45 wt % of the mixture), (c) the additive forms a precipitant in the composite, and (d) the magnesium composite has a dissolution rate of at least 5 mg/cm<sup>2</sup>/hr. in 3 wt % KCl water mixture at 90° C.

39. Defendants have each induced and contributed to direct infringement of the '653 patent at least by importing and/or selling the Infringing Products to others with the specific intent that those others infringe the '653 patent by importing, selling, offering for sale, and/or using the Infringing Products.

40. Terves has been and will continue to be damaged by Defendants' infringement in an amount to be determined at trial.

41. Terves has been suffering irreparable harm due to Defendants' infringement and will continue to suffer irreparable harm unless and until Defendants are enjoined by this Court.

#### **Prayer for Relief**

WHEREFORE, Terves prays for judgment against Defendants as follows:

(A) A finding that Defendants have infringed one or more claims of the '010 patent and one or more claims of the '653 patent under 35 U.S.C. § 271.

(B) Preliminary and permanent injunctive relief enjoining Defendants and their officers, directors, managers, employees, affiliates, agents, representatives, parents, subsidiaries, successors, assigns, those in privity with them, and all others aiding, abetting, or acting in concert or active participation therewith, from: (1) performing any of the methods covered by any of the claims of the '010 patent in the U.S., (2) selling, offering to sell, importing, or using in the U.S. any product manufactured by a method recited in any of the claims of the '010 patent, (3) making, using, selling, offering to sell, or importing in the U.S. any magnesium product covered by any of the claims of the '653 patent, or (3) otherwise directly or indirectly infringing the Terves Patents.



(C) Compensatory damages under 35 U.S.C. § 284.

(D) Treble damages under 35 U.S.C. § 284.

(E) An order that Defendants account to Terves for all sales, revenues, and profits derived from their infringing activities and that three times those profits be disgorged and paid to Terves under 35 U.S.C. § 284.

(F) A finding that Defendants' infringement was willful and exceptional and an award of attorneys' fees and litigation-related expenses under 35 U.S.C. § 285 and the Court's inherent authority.

(G) Pre-judgment and post-judgment interest.

(H) Costs of the action.

(I) Such other and further relief as allowed at law or in equity that the Court deems to be appropriate.

Dated: July 15, 2019

s/ Matthew J. Cavanagh

David B. Cupar (OH 0071622)

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*Counsel for Terves LLC*

**Jury Demand**

Plaintiff Terves LLC hereby demands a jury trial for all issues so triable.

s/ Matthew J. Cavanagh  
*Counsel for Terves LLC*